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CLAIMS

1. Portable communication device (10) comprising:
a first part (12) comprising a first antenna element (22) located within and
5 extending through a major portion of the first part and a radio circuit (30)
feeding antenna elements in the device,
a second part (14) hingedly joined to an end of the first part for providing at
least one open and one closed position of the phone,
a hinge element (16) connected to the first and second parts, stretching along
10 the end of the first part for providing rotation of one part in relation to the
other part around a first axis (32) and having a first (17) and second end, said
hinge element comprising a second antenna element (24; 40), and
a third antenna element (26; 34, 36; 36, 40) located within and extending
15 through a major portion of the second part and being electrically connected to
the second antenna element at least at the first end of the hinge element,
wherein the radio circuit is connected between the first and second antenna
elements for feeding them.
2. Portable communication device according to claim 1, wherein the second
20 antenna element is provided in the interior of the hinge element.
3. Portable communication device according to claim 1 or 2, wherein the second
antenna element encircles the axis of rotation defined by the hinge element.
- 25 4. Portable communication device according to any previous claim, wherein the
radio circuit is connected to the second antenna element between the first and
second ends of the hinge element.
5. Portable communication device according to claim 4, wherein the radio circuit is
30 connected to the second antenna element in proximity of the second end of the
hinge element.
6. Portable communication device according to any previous claim, wherein the
radio circuit is connected to the first antenna element at a position close to the
35 connecting point between the second antenna element and the radio circuit.
7. Portable communication device according to any previous claim, wherein the
first antenna element is electrically connected to the second antenna element
at the first end (17) of the hinge element, thereby providing a gap between the

first and second antenna elements, the length of which is essentially defined by the first and second ends of the hinge element.

- 5 8. Portable communication device according to claim 7, wherein the electrical connection between the first and second antenna elements provides a screen for conductors provided between at least the first part and the hinge.
- 10 9. Portable communication device according to claim 8, wherein the electrical connection between the first and second antenna elements is provided by the screening of a screened cable.
- 15 10. Portable communication device according to any previous claim, wherein the electrical connection between the second and third antenna elements provides a screen for conductors provided between at least the second part and the hinge.
- 20 11. Portable communication device according to claim 10, wherein the electrical connection between the second and third antenna elements is provided by the screening of a screened cable.
- 25 12. Portable communication device according to any previous claim, wherein the second and third antenna elements are only electrically connected at the first end of the hinge element, thereby providing a gap between the third and second antenna elements, the length of which is essentially defined by the first and second ends of the hinge element.
- 30 13. Portable communication device according to any previous claim, wherein the third and second antenna elements are provided with at least one further connection (35) arranged to interconnect the elements when in the open position of the device and to be disconnected when the device is in the closed position:
- 35 14. Portable communication device according to claim 13, wherein the further connection is a continuous connection essentially provided along the whole length of the hinge element.
15. Portable communication device according to claim 13 or 14, further including more than one further connection between the second and third antenna elements.

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16. Device according to any previous claim, wherein the second part includes a first section connected to the hinge element and a second section, where the second section is rotatable around a second axis (38) in relation to the first section, said second axis being provided essentially perpendicular to the first axis.

17. Device according to claim 16, wherein the third antenna element includes a first (34; 40) and second (36) section, the first section of which is provided in the first section of the second part and the second section of which is provided in the second section of the second part, said first and second parts of the third antenna section being electrically connectable to each other along the whole interface between the first and second sections of the second part.

18. Device according to any previous claim, wherein the radio circuit includes at least one tuning network for tuning the antenna to one or more frequency bands.

19. Device according to any previous claim, in which it is a cellular phone.

20. Antenna arrangement to be provided in a portable communication device (10) having a first part (12) including a radio circuit (30) feeding antenna elements in the device, a second part (14) hingedly joined to an end of the first part, and a hinge element (16) connected to the first and second parts and providing an open and a closed position of the portable communication device, the hinge element stretching along the end of the first part for providing rotation of one part in relation to the other part around a first axis (32) and having a first (17) and second end, wherein the antenna arrangement comprises:
a first antenna element (22) to be located within and extending through a major portion of the first part of the portable communication device and to be connected to the radio circuit,
a second antenna element (24; 40) to be located in the hinge element of the portable communication device and also to be connected to the radio circuit, and
a third antenna element (26; 34, 36; 36, 40) to be located within and extending through a major portion of the second part and to be electrically connected to the second antenna element at least at the first end of the hinge element.